

ARCHITECTURE

THE PROFESSIONAL ARCHITECTURAL MONTHLY

VOL. XXXVI

JULY, 1917

No. 1

Some Recent Salesroom Interiors

By Rawson W. Haddon

WE have an unfortunate habit of bemoaning a lack of appreciation by the average American in matters relating to architecture and the other arts. But when we look around us and survey the matter in a calm and unprejudiced state of mind, we find the outlook not so black after all; that it is most promising sometimes—even inspiring.

To take the subject of the decoration of business interiors as a single instance, we find that material for the discussion is not hard to find. And of more importance than the knowledge that material for an article such as this one is plentiful enough to inspire optimistic thoughts for the future, is the fact that we find still greater cause for congratulation in the knowledge that the desire and demand for good work come in the first instance from the owner quite as frequently as from the architect or decorator. It is a notable fact that the best designers are being carefully sought out and retained by those having business operations of the sort illustrated here.

One of the earliest, and still comparatively recent, examples in New York City of this enlightened attitude is found in the premises of Dreicer & Co., jewellers, at Fifth Avenue and 46th Street. The building which this firm occupies was designed a few years ago by Warren & Wetmore, and was decorated by P. W. French & Co.

The salient, outstanding characteristic of the salesrooms in this building, of which there are three, is a certain dignified and well-reserved luxuriousness quite in character

with, and necessary to, the successful display of the products of the firm.

In addition to being "pioneer examples," these rooms remain, at the same time, unique in many details of their treatment. The skilful adaptation of historic decoration

to the purposes of a commercial interior is so evident that it need hardly be discussed. An important feature in securing the total effect, however, was the elimination of counters and show-cases of the uninteresting and monotonous kind usually found in stores.

In place of them, Louis XV commodes and tables—the latter with glass cases on them—are used to hold the objects on display. The chairs and other furnishings of the room are also well "in period."

In addition to the main salesroom, a smaller salon—finished in lighter color—and a porcelain room, which is on the second floor, are of quite equal interest.

In the porcelain room, where objects of various colors are to be kept and displayed, the backgrounds—that is, the walls, carpets, curtains, furniture upholstery, etc.—have been kept in subdued and neutral colors with which the various colored

porcelains will not "clash." This is an important detail and one that deserves careful consideration, and the importance of it has been proven on many occasions.

This is especially true of places where many different-colored objects are to be on view, and the importance of suitable backgrounds in such instances must be imme-



Salon, Dreicer & Co., New York.

diately apparent. Lack of attention to this fact has been the cause of failure in many otherwise well-designed rooms. This is noticeable in the decorations of a surprisingly large number of dressmaking establishments.

One instance of a successfully arranged color scheme in a dressmaker's showroom may be pointed to in the premises of Edward L. Mayer, on East 33d Street, of which Herbert M. Baer was the architect.

The room—in its main essentials—is just such a successfully designed Adam room as could be found in abundance, with the exception of its noteworthy color arrangement. The walls are gray, the carpet a slightly deeper shade of the same color, and the ceiling is cream-white.

Mr. Baer was one of the earliest disciples, in America, of Mr. Paul Poiret's decorative theory of wall backgrounds of unimportant color in which consideration is taken of the



Porcelain Room, Dreicer & Co., New York.

decorative value of the vari-colored gowns worn by those who occupy the room.

Here, in the Mayer salesroom, where gowns of many and far-differing color values are displayed and all of which must be shown against the same background, Mr. Baer has demonstrated the soundness and importance of the theory, just as he did a few years earlier in the interior scheme of the Churchill restaurant.

Briefly, the theory is that the colors and the general design of modern gowns are, or ought to be, brilliant enough to supply the note of color or "gayety" in the room, and that they appear at better advantage when seen against backgrounds having little distinctly individual color value or weight of their own, but which are so selected as to harmonize with whatever shades the greatest number of gowns may contain. The point of emphasis being thus shifted from the decorative structure of the room, as exemplified in elaborate wood panelling or carving or painted walls, to the



Main Showroom, Dreicer & Co., New York.

people who are to occupy it. Obviously the people in a room and not the decorations of it are the important thing, and it seems that only by strict observance of the Poiret scheme can the proper balance of emphasis be obtained.

The value of the scheme is demonstrable by citing a single instance of the recently completed dressmaking-shop on Fifth Avenue, where the walls are of a truly delightful green, but against which, as may readily be imagined, blue and yellow dresses appear to far better advantage than red or brown ones.

It is quite true, of course, that interiors in establishments of the kinds mentioned lend themselves successfully to good decoration, and in them, from the very nature of things, we would expect to find demonstrated an enlightened attitude toward good architectural decoration.

In many other businesses, however, in which the demand for art knowledge does not enter, as in a cigar-store, for instance, evidence of a demand for good surroundings is noticeable. And the interiors by which this statement may be illustrated include an automobile salesroom, a railroad-information bureau, an exceptionally well-decorated lawyer's office, a candy-store, and two shoe-stores.

In the instance of the salesroom of the Simplex Auto-



Dressmaker's Showroom, Edw. L. Mayer, New York.



Interior, Cigar Store, New York.

mobile Co., at Fifth Avenue and 58th Street, the demand for good decoration came from within. No architect or decorator was employed, and the decorations were selected and arranged by the manager of the salesroom.

In considering the finished room as it appears in the illustration, some defects will be noticed. For instance, the tapestry, as shown in the photograph, is hung so high on the wall as to be entirely out of composition with the furniture below it. Its size is good, and if hung two feet or so lower its relation with the table and the chairs would be excellent. The lighting-fixtures, also, are unfortunately hung so high as to destroy the scale of the room in a large degree. The selection of the individual pieces that go to make up the groups is excellent, and comparison of this salesroom with that of other automobile showrooms not far away is not flattering to the competitors of the Simplex Company.

The Information Bureau of the Union Pacific System, in the Astor Trust Building, was designed by a Chicago decorator, Miss Helen Dupee. The problem was to take a store of the usual unpromising size and condition and make it at once attractive and still sufficiently businesslike and practical for the purposes for which it is used.

The means taken to arrive at this result were simple. A floor of blue tile was laid, the walls are panelled and finished in a light-gray color. The furniture is painted a dark olive-green, and bright orange and blue spots are introduced in cushions, as lines on the furniture, etc.; and further brightness is obtained by the placing of occasional bowls of bright artificial flowers.

Another store in which a color scheme has been provided that takes into consideration the widely varying tones of the things for sale in it is that of the François millinery store at 589 Fifth Avenue. Here, in addition to a good color scheme—simply French gray walls with ornament on

the pilasters and the cornice picked out in gold—there is also an interesting scheme of architectural decoration.

The store is in an old-fashioned residence, and the floors being left at the original level, a short flight of stairs was necessary from the vestibule to the main room. The general architectural scheme in this room is hard to discuss. It breaks every canon of good architecture. Mirrors are placed opposite mirrors as a definite part of the scheme, the pilasters support nothing except the vases, and certainly they serve no "structural purpose" in the scheme as a whole.

But in spite of these inconsistencies the room is an extremely interesting one. Seen with the color of hats and scarfs and fans to give life to it, the scheme is one that excites admiration, and about which, "in spite of its inconsistencies," one becomes enthusiastic.

The art displayed in the room is found less in its rococo-like architecture than in the well and carefully arranged balance of emphasis between architecture and the color and interest in hats and gowns.

Another store in which the law or tradition against mirror reflecting into mirror is disregarded is in the Gattle jewelry store. Here again, however, as in the François store, the line of vision is more often on the long axis of the room, so that the repeated reflection of mirror into mirror is not as noticeable as it would be were the view on the short axis of the room. For some reason or other it seems that this decorative error of mirror placement is a general one. Apologies or justifying arguments should not be made for it. And if one were to act in strict regard for sound artistic tradition, nothing but criticism and blame would be spent on interiors which are guilty of this indiscretion.

The plea—which is a common one—that the scheme "adds space" to the necessarily cramped area and width of the average New York store, is hardly to be accepted.



Detail, Showroom, E. M. Gattle & Co., New York.



Main Showroom, E. M. Gattle & Co., New York.



François Millinery Showroom, New York.

It acts as an apology or justification with about the same logic as for a thief to say: "But my burglaries helped to buy my food." To some of us this might appear as a justification of a crime, but others will still hold the crime to be a crime in spite of any such extenuating circumstance.

Still a third room in which the law is broken is worthy of illustration in spite of its "unlawfulness." This is so, less because of any splendid qualities of its decoration, than because the urge toward good decoration comes again from an unexpected quarter. The example is a candy-store, and its testimony simply gives additional evidence of the overwhelming growth of appreciation of the value—both commercially and artistically—of good decoration.

Taken as a whole and judged abstractly on its merits as decoration, without considering the hampering obstacles and circumstances to be solved in the work, the room is full of artistic errors. Judged as the store of a large and successful business house, and compared with many other stores of the same class, the work is distinctly commendable.

In spite of its faults there are many good points to be noted. These consist in the well-designed show-cases against

the wall, the mirrors and mirror-frames, and the painted panels that are between the mirror and show-cases.

Final consideration should be given to two recently completed shoe-stores. In judging them, it is hard to determine which is the more interesting of the two. The Frank store is larger, while in the Hanan store, which takes in a smaller number of floors, the decoration is necessarily concentrated at smaller, definitely marked spaces to which the entire scheme naturally circulates. Thus, in the Hanan store the point of interest is at the elevator-lobby in back of which is the main sales space. Less decorative consideration is given to the stock shelves which are simply arranged in the way found with more or less regularity in all shoe-stores.

In the Frank building, while a lobby also occurs in which there is a well through to the second floor, the architectural treatment is carried entirely around the rooms.

As it happened, the building was sufficiently wide to allow a unique arrangement of stock shelves. Instead of having these arranged along the wall in a solid line, alcoves were arranged about five feet deep having four rows of shelves in each. At the front of the two centre shelves at



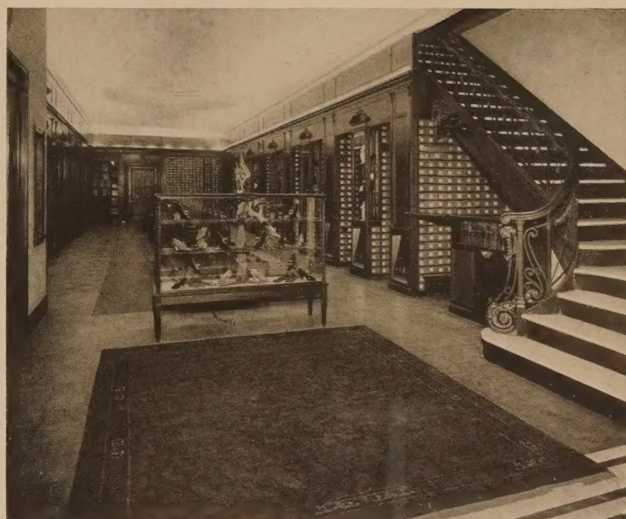
Salesroom, Simplex Automobile Co., New York.



Travel Bureau, Union Pacific R. R., New York.



Interior, Schrafft's Candy-Store, New York.



Interior, Shoe-Store, Frank Bros., New York.

each alcove, as will be noticed in the photograph, is a small display-case. This arrangement is carried through on each floor with no variation, excepting such as occurs in the finishing. Thus, on the ground floor the color scheme throughout is dark, while the children's room on the fourth floor is finished in a light gray.

In addition to giving a substantial increase of room for stock, the arrangement helped very largely by narrowing the width of the store, in obviating any possibility of a seeming lowness in the height of the room in comparison with what would otherwise have been an unusually wide one.

It may be objected that from the point of view of "educating the people" these buildings cannot succeed in that they cater to a high-class and more or less exclusive "trade." As a matter of fact, the people who have had their premises decorated in the manner shown in the illustrations are making no attempt whatever at educating the public.

They have simply demonstrated to their own satisfaction the fact that good architecture is an asset in their various business undertakings. If this is true, it must show

that art is on a solid basis with us to-day and is not so entirely a superficial quantity as critics would have us suppose. Rather, it would seem that good architecture and good decoration, quite as much as good merchandise, are to the successful business man not only a matter of whatever pride he may take in his store, but are business necessities as well.

The point resolves itself to the fact, as one successful jeweller said, that the person who comes to buy a five-hundred-dollar watch will not buy it in a "five-dollar-looking" store. The storekeeper, then, who would deal in high-class goods has found that he must do so in high-class surroundings.

And is it not possible that, eventually, the message that these interiors and that this appreciation of good surroundings carries will be handed down to less exclusive establishments, and that we may soon find corner grocers and butchers competing with their neighbors and competitors in having the best-looking shops, just as druggists of the present time take an almost inordinate amount of pride in having in their windows larger and brighter pyramids of colored globes than their competitors can buy?



Interior, Shoe-Store, Hanan & Sons, New York.



Waiting-Room, Lawyer's Office, Wall Street, New York.

Scientific Management of the Draughting-Room

By Henri C. Heps, R.A.

WORKING DRAWINGS

THE art of making working drawings in the most practical and economical way is forever a problem in a busy Architect's office.

The writer, who has made a particular study of this problem for the last ten years, takes pleasure in offering to his confrères the result of his experience along this line, and if any one practising Architecture or who is managing the Draughting Department can find any of the following suggestions applicable in his own Draughting-Room, this article will have fulfilled its mission.

In taking country-house work as an example and the average cost of each house at \$15,000, the Architect's commission for full professional services is 6 per cent., or \$900. This amount represents the Architect's gross income on that work. In an office that is properly and efficiently managed not over 30 per cent. of the Architect's income should be spent on salaries outside of his own time, which represents, therefore, the salaries he pays to draughtsmen, superintendents, specification writer, stenographers, etc. The other 70 per cent. of his commission is then left over for the general running expenses of the office, such as rent, material, telephone, petty cash, traveling expenses, etc., and profit.

This 30 per cent. of the income allowed for salaries should now be subdivided as follows:

Sketches.....	1.8 per cent.
Working drawings.....	7.8 per cent.
Specifications.....	3.0 per cent.
Details.....	4.2 per cent.
Superintending.....	4.2 per cent.
Overhead.....	9.0 per cent.
Total.....	30.0 per cent.

By overhead I mean all time paid for vacations, holidays, sickness, stenographers, and office boy, so that the other percentages represent net figures only, but even now taking working drawings in particular under consideration, we find that only 7.8 per cent. of our \$900 income, or \$70.20, is available for the working drawings of this \$15,000 building. How can it be done?

First a few words about the management of the Draughting-Room itself, as this is the key-note to the secret of the entire combination. For the purpose of this article I shall assume that the Draughting Department employs twelve draughtsmen or less. This department should be in charge of one man only, known as Head Draughtsman or Office Manager, who would pass on every point relative to the Draughting-Room and who would be responsible for all the work performed in this department, the idea being to eliminate the possibilities of contradictory instructions and orders being given, which always result in a great waste of time and inefficient work. It is obvious that such a man shall be in close consultation with his employer and be let into his confidence. It is now required that this man shall define the different principles and methods that shall be adopted in his department in turning out the work that comes under his supervision.

He should personally train all draughtsmen in each

branch of the work, so that each man becomes available to him for sketches, working drawings, details, or superintending. This, of course, requires a lot of the head man's time, but at that it is a very paying proposition, as most ambitious young men are only too glad to consider, as part of their salary, the splendid opportunities and the education that they acquire in an office that is run along these lines. It is a very great advantage to the office to have a force that can work to the same advantage, on working drawings, details, or sketches. It is very easy to see that the Head Draughtsman in an office of this kind must be an efficient person, and the employer should use great care in selecting a man to fill the position.

Any Architect's office, or any office for that matter, that is not on a paying basis can attribute its failings to one of two things. The first is that it is not getting much business, and the second is that the right men are not in the right places, and for either of these two points the employers and not the employees are primarily responsible.

To come back to the preparation of working drawings, I shall offer the following points as having been properly tested and as being part of the medium by which most satisfactory results have been obtained.

Working drawings should never be made on tracing-paper, because tracing-paper deteriorates rapidly in ordinary files, and is not substantial enough to allow for the changes that are necessary in the course of their development. They should always be made on blue tracing-cloth *in pencil*, and details should be made also in pencil, but on white tracing-cloth (white cloth being cheaper). Working drawings made in ink for country-house work are not only unnecessary but criminally extravagant. There is no trouble in getting very good blue-prints from drawings made in this manner. All that is necessary is a little practice and conscientious efforts on the part of the draughtsman until he has mastered the art. At first it will take some time before a man is able to make a pencil drawing as neat, clear, crisp, explicit, etc., as he can make one in ink, especially as far as the value and thickness of lines are concerned, but it has been proved to my satisfaction that this can be accomplished in a comparatively short time. Having adopted that idea, we now proceed with the order and manner in which to make working drawings. It is understood that the preliminary sketches have been approved and the Architect is authorized to go ahead with the quarter-inch plans.

In laying out a set of working drawings one should begin by drawing the plan of each floor in outline only, showing the outside walls, bearing walls, and partitions. The most economical and practical way of framing for the building should then be thought out and after this the four elevations, or at least two of them, the front and side, should then be blocked out, the main reason for this being to get the proper headroom in the top-floor bedrooms, gables, and dormer-windows on the plan. The next thing to do is to draw the window and door openings on the elevations. The planning of the building must be kept in mind while this is being done, but the idea is to get the openings of the right proportion before putting them on the plans. In studying the fenestration of a building the draughtsman should always

show the different floor levels on all elevations, and at least on one of them he should lay out his stairs from cellar to roof. This is the best way to avoid the mistake of drawing windows too near the floor or ceiling, and putting them where stair landings would cut through them, and this is just what draughtsmen are forever doing. After going so far it is desirable to go back to the plans, starting by drawing the window and door openings on same and comparing them at the same time with the elevations. The layout of the stairs, closets, bathroom fixtures, dressers, etc., should also be indicated on the drawings, and at this point a black print of the drawings should be sent to the owner for his final approval, with a request to have him suggest on those prints the location and number of light outlets, switches, receptacles, bells, radiators, etc., for each room. When these prints have been returned, the changes made, the lights, etc., shown, the draughtsman should proceed by indicating his plumbing and heating layout, together with the many other things, most of which are mentioned in the accompanying "Reminder for checking plans." It is only when the plans are as far as this that the lettering and numbering of the rooms should be done, in order that it may not interfere with other more important notes or signs which have to be shown on the plans.

In getting out a set of working drawings it is important to have them as complete as possible, in order to leave nothing to the builders' imagination and to get the lowest possible estimates on them. A draughtsman, in getting his drawings in this shape, is liable to get them very confused, but this is readily avoided by having a "Signs on Drawings" carefully worked out, covering every branch of construction: Masonry, carpentry, electric wiring, plumbing, heating, etc. By using an index of this kind a great many notes can be eliminated from the plans, and simple lines of a different nature, representing footing courses, overhead lintels and floor beams, electric mains and feeders, plumbing-pipes, heating-supply pipes or returns, etc., can be made explicit without taking away from the more important items on the plans. The "Signs on Drawings" mentioned above should be made in ink on cloth, the same size as the specification sheets, and a blue-print copy of same should be bound with the specifications.

It is also desirable that quarter-inch sections are made somewhere on the elevations through the portions of the building which leave a question as to the way that they might be constructed; for instance, through water-tables, bay windows, porches, porte-cochères, sleeping balconies, rafter ends, cornices, etc. All these small items make a great difference to a contractor who, in figuring a set of plans, has to make his estimate large enough to cover himself in the many points where the drawings and specifications are not explicit.

In making the details for a building that has been completed to this extent, one is able to eliminate a great many half-inch and three-quarter-inch drawings, because the full-size sections are all that a builder is interested in, after once having a clear conception of what is intended.

I would also like to call the readers' attention to the manner in which plans should be figured.

After the working drawings have been completed and plans figured, it is sometimes desirable to change the thickness of outside walls or interior partitions, and also to increase or decrease the width of doors and window openings. This, in many cases, has caused the refiguring of most all the drawings, and to avoid this one should figure from the outside face of exterior walls to the centre of interior partitions, and also the centre of door and window openings.

The width of these openings and walls should be figured separately, in addition to the dimensions previously mentioned.

REMINDER FOR CHECKING PLANS AND ELEVATIONS

VERIFY ON PLANS

GENERAL:

- Number, date.
- Cardinal points of compass.
- Number rooms, placing the number in a circle.
- Areas, cellar, and windows.
- Leaders.
- Drains for porch floors, areas, refrigerator, etc.
- Sidewalks.
- Vaults.
- Cement floors in cellar.
- Tile floors for porches, bathrooms, etc.
- Pitch for porch floors.
- Roofs, direction of flow of water, crickets.
- Points where leaders connect.
- Bulkheads.
- Skylights, dome-lights and light-shafts.
- Parapets.
- Cornices and their relation to the line of the building.
- Girders, lintels, posts.
- Floor beams, ceiling beams, framing, support for the roof plate.
- Bearing partitions and footing lines.
- Proper daylight for rear halls or passageways.
- Hearths (3' 0" minimum depth of kitchen hearth and 1' 8" for fireplaces).
- Flues, furnace, laundry, fireplaces, vents, ash-flues, etc. (The sectional area of the flue for fireplaces should not be less than 1-10 of the fireplace opening.)
- Hot-air flues.
- Steam-pipe chases.
- Soil-pipe lines.
- Medicine-closets.
- Doors—size—glazed and the way they swing.
- Windows—
 - Double sliding.
 - Casement, show which way they open.
 - Marked "L. G.," or "P. G."
 - (Circular windows to have square heads inside.)
- Stairs, headroom, newels.
- Porch steps, rails, newels, parapets.
- Bulkheads, area steps, terrace steps, porch steps.
- Letter what material they are made of.
- In the attic where rooms are small, keep curtain walls near to the eaves.
- Mark thickness of all walls.
- Figure drawings (the last thing).
- Clothes-chutes.

ELECTRIC AND BELL WORK:

- Light outlets: Gas, electric, or both, and number of burners. Mark height of same from the floor in specifications. Avoid doors, slanting roofs, window curtains, bathtubs, etc. Keep outlets away from heat-ducts.
- Plate-warmer.
- Switches.
- Receptacles.
- Distribution.
- Meter-board.
- Bells.
- Annunciators.
- Buzzers.
- Speaking-tube.
- Push-buttons.

PLUMBING:

W. C.—Allow a space of at least 24" in width and 26" in length.

Lavatory—Allow a space of at least 20" x 33".

Bathtub—Allow a space of at least 2' 4" x 5' 4" for a 5' 0" tub.

Soil-pipes.

Supply-pipes.

Drain-pipes.

Water-tank in attic. Select a place of no importance.

HEATING:

Boiler.

Risers.

Registers.

Radiators, size, position, capacity.

VERIFY ON ELEVATIONS

Compare elevations and plans.

Floor lines in red ink—head room in gables and slanting roof.

Dot in stairs and landings.

Dot in foundations below grade line.

Show correct grade lines.

Figure windows from floor and height of same.

Mark glass "L. G." or "P. G."

Dot in fireplace openings and direction of flues.

Bracings of chimneys.

Crickets.

Circle for detail number.

Windows above pantry sinks should be 3' 8" or 4' 0" above the floor.

Show $\frac{1}{4}$ " section through roof plate, through bay windows, water table, etc.

In figuring the height of stories, figure from finished floor to finished floor.

SIGNS ON DRAWINGS FOR PLANS AND SECTIONS

In addition to these signs the Draughting Room should use for electric work the standard symbols adopted by the National Electrical Contractors' Association, and the American Institute of Architects, as shown herewith, copies of which can be procured by writing to the above-mentioned associations.

It has been shown that in the long run the saving in time of making drawings of this kind in pencil is from 50 to 100 per cent. over the time it takes to make similar drawings in ink, and where changes are concerned the saving is a great deal more. One should use an HB or B pencil on blue tracing cloth for working drawings, and an F pencil on white tracing cloth for details, in order to get the best possible results in printing them.

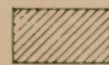
In reference to the details, these should be made on uniform size sheet. The question of standardizing details with the idea of using them over and over again on different buildings of a similar character has not proved to be successful, because the ultimate success of the building depends largely upon the details. It is desirable, however, to have a set of standard office details, showing different portions of a building in a typical way only. This, together with other office data of which I shall speak later, will materially reduce the time spent on details. The proportionate time that should be spent on details varies with the nature of the building; it has been proved that in the case of country houses costing over twenty-five thousand dollars more time should be allowed for details and less for working drawings and

specifications than would be represented by the percentages previously mentioned, but the total time need not exceed the 30 per cent. of the income.

By "office data" referred to above, I mean the general information which is contained in most recognized hand-books, such as tables giving the height of risers and width of treads, the size of flues, the dimensions of fireplace openings, the strength of beams and girders, etc., etc. Every live office is full of this sort of valuable information, but the trouble is that no one knows how to make use of it.

— INDEX OF SIGNS ON DRAWINGS —
FOR
PLANS & SECTIONS

Concrete



Brick



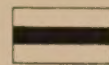
Terra Cotta



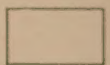
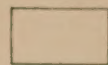
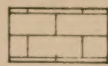
Puddle Stone



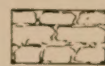
Cut Stone



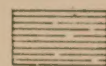
Frame & Plaster

— INDEX OF SIGNS ON DRAWINGS —
FOR
ELEVATIONS

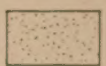
Cut Stone



Puddle Stone



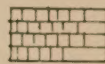
Brick



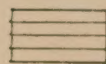
Stucco & Plaster



Wood



Shingles



Clapboards



Sheet Metal

— INDEX OF SIGNS ON DRAWINGS —
FOR
STRUCTURAL & MECHANICAL
WORK

----- Work Beneath & Below Grade

----- Work Overhead

~~~~~ Supply Pipe (Steam) or Flow Pipe (hot water)

~~~~~ Return Pipe (Steam or hot water)

----- Beams for Floor Above

----- Medicine Closet.

As to specifications, so much should be said about this that it is impossible to include same as part of this article. It may suffice, however, to say that the writer has been able to accomplish most astonishing results by standardizing his specifications, and that while it used to take him two weeks to write the general, plumbing, heating, and electric wiring specification for a twenty-five-thousand-dollar private residence, it takes him now just three days.

All of the above is not a mental illusion, but is being practiced, and I am convinced that the time is not far off when an architect with a medium size practice will come to realize that his office must be managed along scientific principles in order to do work of a high standard and to give his clients the best that is in him without a financial loss to his own business.



MEMORIAL PUBLIC LIBRARY, SEYMOUR, CONN.

Murphy & Dana, Architects.

V. Types of Construction

By DeWitt Clinton Pond, M.A.

Mr. Pond, so well-known to our readers as the author of "Engineering for Architects," is now writing for ARCHITECTURE a series of articles on different types of construction dealing with the more elemental problems

A LIBRARY BUILDING

THE buildings under consideration up to the present have been "frame" buildings. There has been a wood frame consisting of sills, corner posts, plates, studs, rafters, and headers and trimmers on which the sheathing, lath, furring, and other covering have been placed. As all of this construction has been of wood, which is inflammable, it is obvious that there is nothing that might be called "fire-proof" in any of the houses.

The building that will be discussed in this article is a library building at Seymour, Conn. It is necessary that such a building should be less subject to the destruction caused by fire, and so, while there is inflammable material used in the construction, the exterior walls and the roof covering are of fire-resisting materials. The walls are of brick and the roof is covered with slate, and supported on steel trusses. This forms a good protection against fire attacking the building from the outside.

There are also other fireproof features in the building, such as the stairs to the basement, which are of metal and marble, and the ceiling of the first floor, which is of plaster on wire lath, and is supported on metal furring. There are "fire stops" used to prevent fire from working its way into

the open spaces in the partitions; and so, allowing for the fact that economy has been aimed at in the design of the construction, the building can be said to be reasonably fire-proof.

The architects of the Seymour library are Murphy & Dana. Their work is not only well known in this country but also in Japan and China, where they have designed several groups of college buildings, which are now under construction. The reproduction of a photograph of the Seymour library is shown in Fig. 23. The building is characteristic of the admirable work of the architects.

The basement of this building contains important rooms, and is treated in an entirely different manner from that of the residence described in the last article. The excavation for this basement is larger by a foot on all sides than the over-all dimensions of the building. The footings of the foundation walls are of concrete; and, except where it is possible to use a small quantity of local stone, the foundation walls are of brick. No stone is used above grade. The thickness of these walls is 20 inches and this thickness is carried from the top of the footings to the top of the first-floor joists. The brickwork is built around the joists.

The walls for the remainder of their height are 16 inches thick. Of this thickness 4 inches on the outside are used for face brick, and 4 inches on the inside for hollow brick.

A good common brick, carefully selected, may be used for the face brick, but as a rule architects specify a particular make. It is usual, with common brick, to specify that each brick shall be hard-burned and sound, with sharp edges. If bricks are not burned enough they are soft and have a salmon tint. It is customary to state that no salmon brick shall be allowed. The use of the hollow brick on the inner surface of all brick walls is for the purpose of providing an air space between the inner and outer surfaces of the outside walls. The reason for the need of this air space is that brick is a good conductor of heat, as shown by the fact that if one end of a brick is heated the other end is at once too hot to be held.

With such a good conducting surface as a plain brick wall between the outside air, which may be cold, and the inside air, which must be at a temperature of 70 degrees, according to specifications, there is apt to be condensation of moisture on the inner surface for exactly the same reason that moisture collects on the outside of a cold drinking-glass. To avoid this an air space should always be provided.

The face brick is laid up in what is known as "Flemish Bond." In Fig. 24 the two most common methods of laying brick in this country are shown. The first (a) is known as "running" or American bond, and the second is known as "Flemish" bond.

There are several other

methods used, but these two are the most common.

The brick backing is laid up in cement mortar, composed of one part cement to three parts sand. The face brick is laid up in lime and cement mortar, composed of two parts of Portland cement, one part lime, and five parts sand. It is usually advisable to specify a small percentage of lime to be mixed even with the plain cement mortar, as this makes it easier to work.

A brick wall 8 inches thick is also carried up in the basement, dividing off the boiler and coal-storage rooms and these two rooms are again divided by another 8-inch brick wall. The basement plan is shown in Fig. 25 and the first-floor plan in Fig. 26.

It will be noticed that there is an assembly-room in the basement. The public is admitted to this room and the hall. The receiving-room and the storage-room are also important rooms. These and the toilets must be finished in accordance with their importance and in order to have the basement absolutely dry it is necessary to have a damp-proofing membrane composed of heavy roofing-felt and coal-tar pitch under the basement floor and on the outside of the basement wall.

The membrane under the floor is laid in the following manner. A levelling coat of concrete is laid over the excavated floor bottom about 2 inches thick. This coat should be at least 2 inches thick, but may be more in places in order to bring it to a level surface, which should be $4\frac{1}{2}$ inches below the finished basement floor level. On top of this is swabbed a coat of coal-tar pitch, then a layer of felt

is laid on while the pitch is hot. Over the felt another coat of pitch is applied and then a second layer of felt. In all there are four layers of felt with a final coat of pitch. Care should be taken that the layers of felt coming over one an-

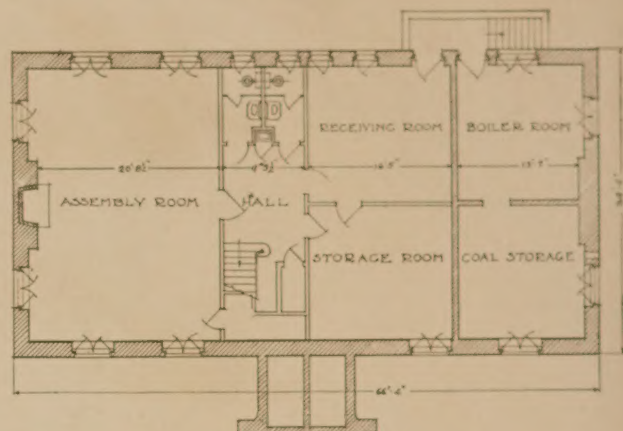


FIGURE 25

other should break joints, and that there should be a good three-inch lap between strips.

When the concrete footings are poured and have set, a portion of the damp-proofing membrane is carried over the footing before the foundation-walls are started. A sufficient amount of felt is left projecting outside of the foundation-walls to be turned up when the wall is completed and the felt is incorporated into the damp-proofing that is applied to the outside of the wall. This wall, after it has been built up to and above grade, is covered with a 1-inch coat of cement mortar, and over this is swabbed a coat of coal-tar pitch which comes up to the grade and goes down to connect with the damp-proofing of the basement floor. Over this membrane in the floor a final coat of concrete is laid, $3\frac{1}{2}$ inches thick, and in all the rooms in the basement, except the assembly-room and hall, a finishing coat of cement mortar is laid on the concrete. The finishing coat of cement mortar is 1 inch thick.

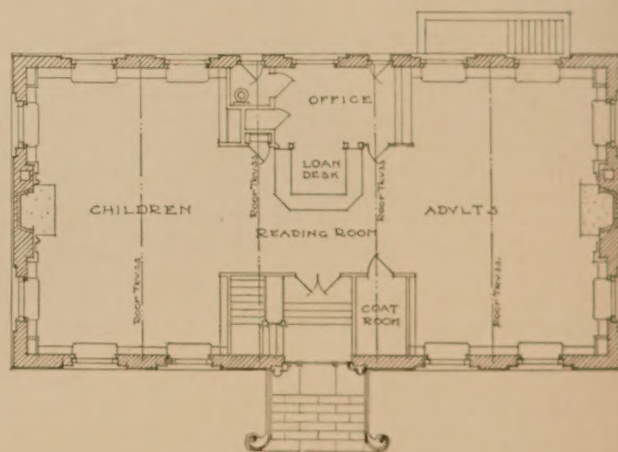


FIGURE 26

In the assembly-room and hall there is a wood floor. In order to lay this kind of a floor over concrete it is necessary to have wood strips called "sleepers" laid in the floors to which the rough flooring is secured. Over the rough flooring is laid the finished floor, in the usual manner.

Sleepers are usually cut from 3-inch by 3-inch timber, although when fairly large pipes are to be run between them in the floors, they are cut from 4-inch by 4-inch material. When planed down they usually measure $2\frac{3}{4}$ inches or $3\frac{3}{4}$ inches thick. They are placed 16 or 20 inches on centres.

Actually, in the course of construction of a building, the finished floor is not laid until the last. The footings are poured, the damp-proofing is carried over them as stated

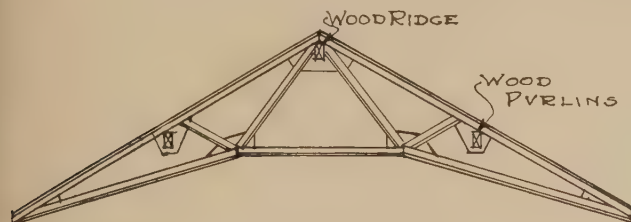


FIGURE 27

above, the foundation-walls are built, first-floor joists laid, and the walls are carried up to the proper height to receive the trusses or rafters. As the walls go up and pass the window openings, angle-iron lintels are set over the heads of the windows to support the masonry over them. Angles having equal legs, measuring 4 inches by 4 inches, are convenient to use and as they are usually stronger than necessary, they need not be more than $\frac{3}{8}$ of an inch thick. In the present case they are 3-inch by 3-inch by $\frac{3}{8}$ -inch angles.

Where the windows have circular heads the masonry arch can support whatever weight comes upon it and there is no need of lintels.

When the walls are completed the trusses and plates are set in position. A truss is a framework of timber or steel that is used to support roof loads over long spans. In the present case there are no interior bearing partitions on which to rest the roof, and as there is a total over-all width of 34 feet to be spanned, it is advisable to span this width by means of four steel trusses. The type of truss used is shown in Fig. 27. This type is known as a "fan" truss, and is used where a type of coved ceiling is desired.

No attempt will be made to explain the method of determining the sizes of members in the truss. The information given in "Engineering for Architects" will be sufficient to enable one to determine these sizes. Between the trusses, and framed into them in such a position that the top of the rafters will come on a level with the top members of the truss, are placed 6-inch by 10-inch timbers called "purlins" usually, and in the present case they are used as ridge members also.

Connecting the plates and the purlins, and between the purlins and the ridge, rafters are placed. These rafters are 2-inch by 6-inch timbers spaced 20 inches on centres.

On the rafters roof-sheathing is nailed. In all previous articles the roof covering was wood shingles. It is a disputed point whether it is better to have sheathing or furring strips to nail the shingles to. Sheathing is apt to maintain a cooler temperature under the roof in summer than furring strips. On the other hand, furring strips allow for an air space under the shingles, and they are protected from rotting. There is no dispute regarding the use of sheathing under slate.

Over the sheathing roofing-felt is laid. Over the felt is laid the slate. Slate is a kind of rock that can be cut in thin layers. In order to nail through it holes are drilled, and two of the holes are countersunk so that the head of the nail will not project. The length of each piece of slate is

specified for this particular building to be 20 inches. The thickness is $\frac{5}{16}$ of an inch, and random widths are called for. These slate may be exposed to the weather about 6 inches.

Where the ends of the roof intersect the masonry walls there is flashing and counter-flashing, and in the case under consideration the metal used is copper. There is flashing at the ridge also.

When copper is used it is generally specified to be 16-ounce copper and the solder one-half tin and one-half lead.

The gutter is of the type used in the construction of a wooden box cornice. It is simply let in at the end of the rafters, lined with felt and copper, and the copper is continued under the slate in the form of flashing. The gutter is pitched to the ends of the building, where holes, called raglets, are cut through the marble cornice. Goose necks connect these raglets to the leader-heads. The leader-heads are of ornamental design, as shown, and the leaders themselves are of copper.

So far the enclosing of the building has been referred to without any mention of the marble work. This is laid up as the rest of the masonry is carried up, but is laid in non-staining mortar, composed of some accepted brand of white cement, white sand, and lime. In the specifications a particular kind of marble is specified, coming from a certain State and being free from imperfections. It is usually anchored to the masonry by means of metal anchors. The architect always furnishes a detail of the marble work indicating the jointing required, and the specifications show the size of joint required. The marble contractor then furnishes to the architect a working drawing, which is usually called for in the specifications, and this should be in accordance with the architect's detail and this drawing should be checked and approved or returned for correction.

In the last article a casement-window detail was shown which was a type that could be used in a frame house and where stucco was used for the exterior finish. Fig. 28 shows a detail of the casement windows used in the basement of the Seymour library. It will be seen that this detail is drawn so that the sash will open in. It will be noticed that provision is made for diverting the water from driving

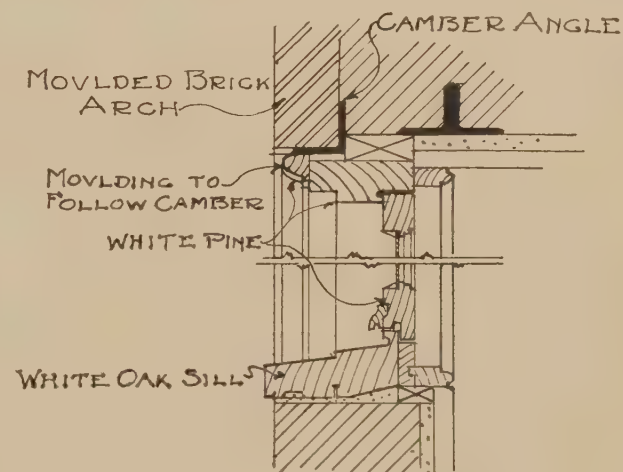


FIGURE 28

between the sill and the sash. This is the best that can be done to make such a window water-tight, but it is a difficult task to accomplish.

The lintels are shown in this figure. The moulded brick arch over the window has a slight upward curve called

a "camber." It will be noticed that the lintels are indicated as also being curved to match this camber.

The windows in the first story are double-hung windows. The difference between this type of window and the one used in frame construction is that the window-frame is known as a "box" frame. This means that the frame has a back and is indeed a box in which the weights are hung. The pulley-stile is made $1\frac{1}{8}$ inch thick, the outside and inside casing is $\frac{7}{8}$ inch thick. The backing is $\frac{5}{8}$ inch thick.

So much for the exterior of the building. The construction has been covered only in a general way, but the important features have been discussed.

The interior construction is not particularly complicated.

The partitions in the basement, except the 8-inch brick walls already referred to, are simply stud partitions. The hall partitions are used as bearing partitions, on which the first-floor joists rest. The joists over the coal-storage and boiler-rooms are made of 2-inch by 12-inch timbers spaced 16 inches on centres. Those over the receiving and storage rooms are also two-by-twelves. Those over the hall are not as deep, being two-by-eights, but the joists over the assembly-room are larger and are spaced nearer together. They measure three-by-twelve, and are spaced 12 inches on centres. Owing to the length of the span and the fairly heavy live load, it would be necessary to have these joists of

hard pine rather than spruce as would ordinarily be the case. Because these joists are of this material it would be well to specify all joists to be of the same wood.

All stud partitions are lathed and plastered and the ceilings in the basement are plastered.

The first story is really one big room with a barrel-vault plaster ceiling on metal lath. The partitions shown on the plan are only 7 feet and 6 inches high. They are constructed by setting up 2-inch by 3-inch studs set flatwise with the partition. This makes a plastered partition which is only 4 inches thick. The disadvantage of setting studs flat is that at the points where the laths are nailed to the studs the plaster cannot work into the spaces between the laths and get a grip. For this reason, if it is desirable to place the studs flatwise, as it is in the present case, it is better to specify two-by-threes rather than two-by-fours, as there will be less room taken up by the studs.

In order to construct the ceiling there are first a set of $1\frac{1}{2}$ -inch angles hung from the rafters and spaced 3 feet on centres. At right angles to these and wired to them are spaced 1-inch angles 12 inches on centres. Over these angles the wire lath is wired, and on the metal lath the plaster is applied.

The interior finish has not been described—simply the general construction—as the limits of this article make this impossible.

Legal Decisions of Interest to the Architect

These decisions appear monthly and are edited by Mr. John Simpson, the well-known lawyer

DAMAGES FOR DELAY—ARCHITECT'S CERTIFICATE

In an action for the balance of the contract price of school buildings the owners counterclaimed for fifty days' delay beyond the stipulated time for completion. The contract provided for a penalty of \$50 for every day's delay as liquidated damages. It also provided that there could be no extension of time unless (1) completion was delayed by the act, neglect, or default of the owner or of the architect or of some other contractor employed by the owner, or by damage caused by fire or other casualty for which the contractor was not responsible, or by combined action of workmen in no wise caused by or resulting from default or collusion on the part of the contractor; and also unless (2) a written claim for an extension for any such cause was presented by the contractor to the architect within forty-eight hours after the occurrence of such cause; and also unless (3) the architect thereupon determined that an extension of time should be allowed and fixed the period thereof. It appeared on the trial that performance was delayed. The New Jersey Court of Errors and Appeals held that the burden of proving that the delay was caused by the owner and that such claim for extension was made was upon the contractor. The powers of an architect under whose direction a building is being erected and the force and effect of any certificate he may give are determined strictly by the contract. Here it appeared that by the contract the architect had power by his certificate to determine conclusively that the contract had been completed, but had no power to determine how much the contractor upon completion was entitled to be paid. It was therefore held that the mere written request of the architect that the owner pay a certain named sum to the contractor on the completion of certain items therein speci-

fied, was no bar to the owner's counterclaim for damages for delay.—*Ferber Const. Co., vs. Board of Education (N. J.)*, 100 Atl. 329.

LOANS BY MORTGAGEE

A first mortgage and construction loan agreement provided that certain payments should be due from the mortgagee when certain work named was completed. The contractors, who held legal title to the property, abandoned the work before that time, and a second mortgagee completed the work for his own benefit and to protect his own interests. The Massachusetts Supreme Judicial Court holds that the payments were conditional upon completion of the work and the contractors were not entitled to them.—*Finkelstein vs. Morse (Mass.)*, 115 N. E. 667.

RIGHT TO COMPENSATION

Where an entire contract is made to perform work and no agreement is made as to time or manner of payment, the work must be substantially performed before payment can be demanded. Applying this principle, the New York Court of Appeals holds that a contractor was not entitled to 85 per cent. payment in the absence of agreement, though the custom generally was to pay 85 per cent. as the work progressed.—*Stewart vs. Newbury (N. Y.)*, 115 N. E. 984.

POWER TO ALTER BUILDING CONTRACT

A taxpayer sought to enjoin a school board from paying for the construction of an asbestos roof placed by the contractor on a school building erected by him under contract



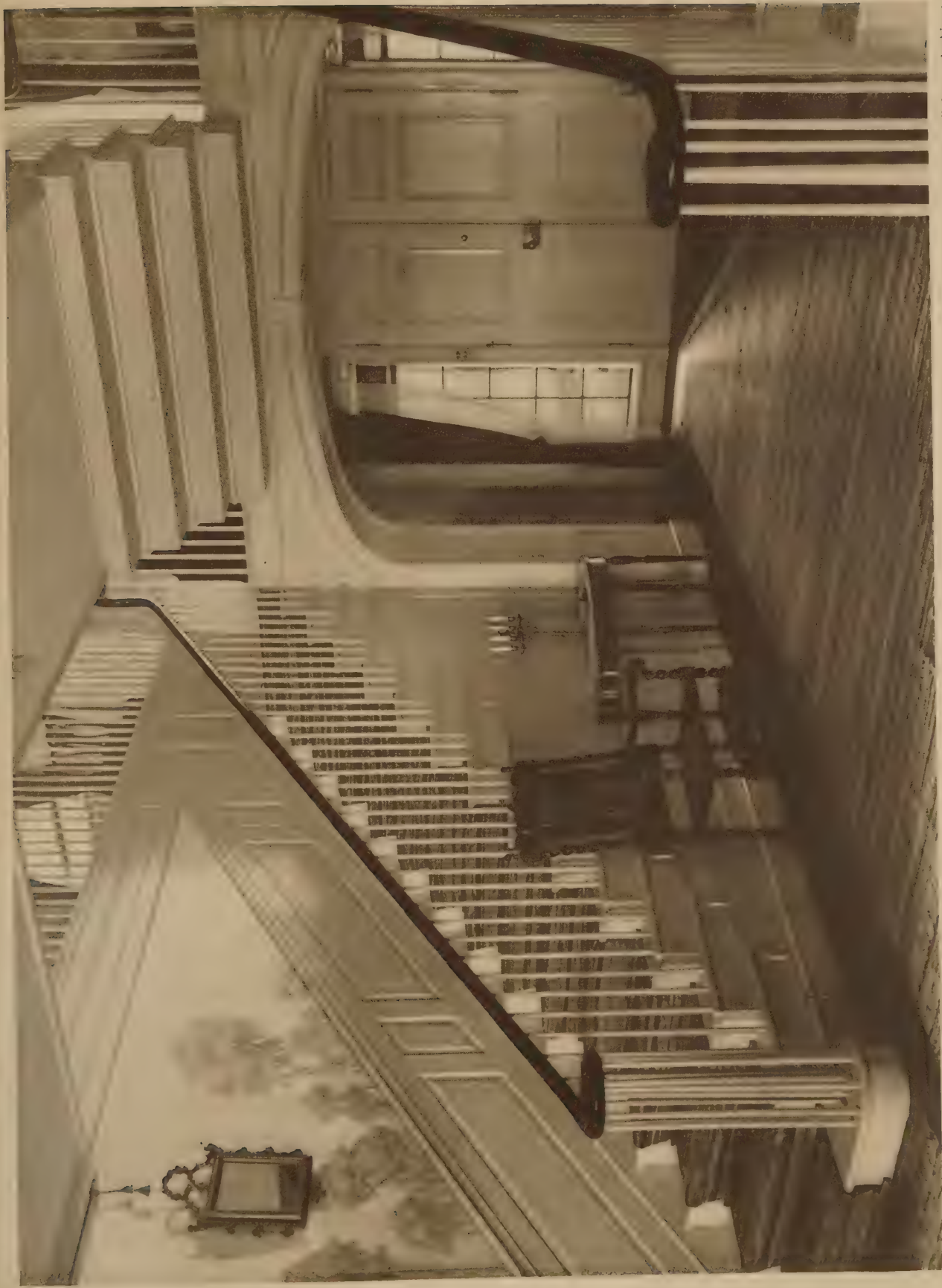
HOUSE, ROBERT J. COLLIER, WICKATUNK, N. J.

John Russell Pope, Architect.



ENTRANCE, HOUSE, ROBERT J. COLLIER, WICKATUNK, N. J.

John Russell Pope, Architect.



MAIN HALL, HOUSE, ROBERT J. COLLIER, WICKATUNK, N. J.

John Russell Pope, Architect.



MANTEL, DINING-ROOM, HOUSE, ROBERT J. COLLIER, WICKATUNK, N. J.

John Russell Pope, Architect.



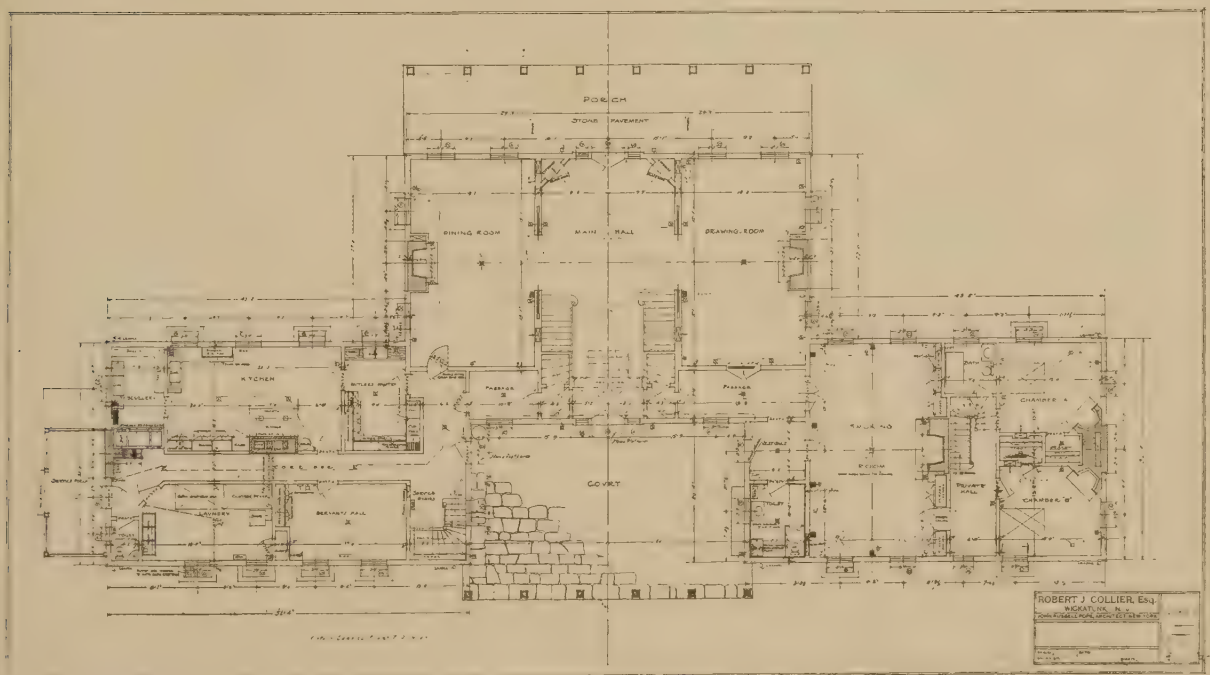
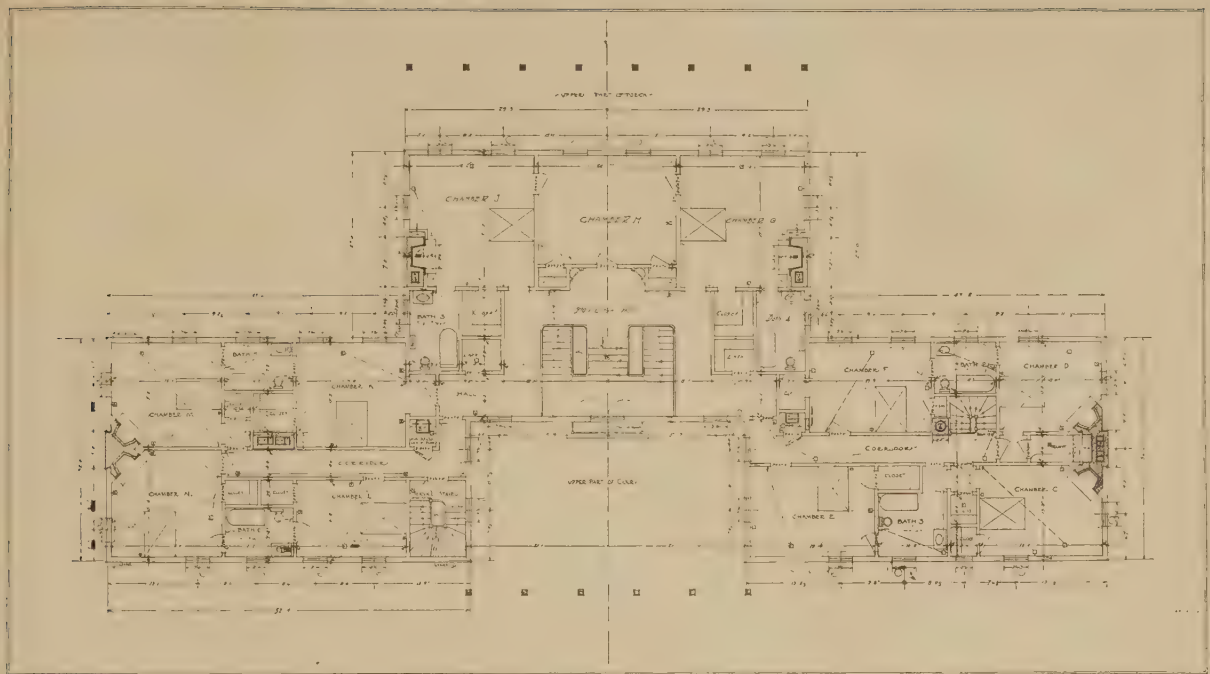
DETAIL, DINING-ROOM, HOUSE, ROBERT J. COLLIER, WICKATUNK, N. J.

John Russell Pope, Architect.



HALL, HOUSE, ROBERT J. COLLIER, WICKATUNK, N. J.

John Russell Pope, Architect.



PLANS, HOUSE, ROBERT J. COLLIER, WICKATUNK, N. J.

John Russell Pope, Architect.



DETAIL, ASTOR TRUST BUILDING, FIFTH AVE. AND 42D ST., NEW YORK.

Montague Flagg, Architect.



DETAIL, UPPER STORIES, ASTOR TRUST BUILDING, FIFTH AVE. AND 42d ST., NEW YORK.

Montague Flagg, Architect.



BANKING-ROOM, BANKERS TRUST CO., ASTOR TRUST BUILDING, NEW YORK.

Montague Flagg and Chas. E. Birge, Architects.



BANKING-ROOM, BANKERS TRUST CO., ASTOR TRUST BUILDING, NEW YORK.

Montague Flagg and Chas. E. Birge, Architects.



HOUSE, SHERMAN HOYT, PARK AVE. AND 79TH ST., NEW YORK.

I. N. Phelps Stokes, Architect.

with the city. It appeared that before commencing the building the contractor suggested in writing to the board that he would like to change the roofing material and put on the building a certain asbestos roofing instead of the composition roofing of the tar and gravel type, as stipulated in the contract, and this was agreed to. The change did not increase the cost or alter the character or efficiency of the material. The original contract provided that changes might be made in the materials, method of construction of the building, a usual and valid provision. The plaintiff claimed that the contract for the roof was illegal, because not let as required by the city charter to the lowest bidder. The Wisconsin Supreme Court held that such changes, when they are made in good faith and do not substantially change the character of the building or unreasonably increase its cost, may be legally made without taking the steps required to be taken before letting the original contract.—*Pung vs. Derse* (Wis.), 162 N. W. 177.

ERECTION OF DWELLING-HOUSE

The Minnesota Supreme Court holds that prohibiting an owner from erecting a four-family flat building within a residential district on the ground of unhealthful congestion, added fire risk, and more difficult police supervision was beyond the police power of a city and void.—*State vs. Minneapolis* (Minn.), 162 N. W. 477.

DESTRUCTION OF BUILDING DURING PERFORMANCE

In an action by a contractor to recover for part performance of a contract to construct a reinforced concrete floor in a warehouse which burned before the floor was completed, the Kansas Supreme Court holds that recovery could not be predicated on the fact that the owner declined, on request of the contractor, to rebuild the warehouse, or on the fact that the owner collected insurance on the building, purchased before the contract was made. In such a case the court holds that recovery is limited to the amount of contract work done which at the time the structure was destroyed had become so far identified with it that the material furnished and labor performed would have inured to the owner's benefit, as contemplated by the contract, if destruction had not occurred.—*Carroll vs. Bowersock* (Kan.), 164 Pac. 143.

LIQUIDATED DAMAGES FOR DELAY

Article 5 of a building contract provided that, if the contractor should fail to perform, the owner should be at liberty to terminate employment and complete the work, the contractor to be liable for expenses and damages incurred. Article 6 provided that if the contractor failed to complete the building within the stipulated time he should forfeit the sum of \$10 a day as liquidated damages. The Arkansas Supreme Court holds that the articles provide for different breaches, and termination of employment and completion of the work by the owner did not estop him from the right to liquidated damages provided by Article 6. There was nothing to show an intention to rent the building, that it could be rented, or that the rental value could be used as a criterion for measuring damages. It was therefore held that, in view of the determination of the parties, the provision should be construed as one for liquidated damages and not a penalty; the damages being difficult of measurement and the liquidated amount reasonable.—*East Arkansas Lumber Co. vs. Swink* (Ark.), 194 S. W. 5.

EFFECT OF MECHANICS' LIENS LAWS

The effect of our mechanics' lien laws is to give to a party doing work or furnishing material for the construction of a building, when such party is a sub-contractor, the same right to subject the building to the satisfaction of his claim as he has against the principal contractor, and in case he resorts to a lien upon said building to satisfy his claim for work done or material furnished thereon, he is entitled to collect interest from the time his debt is due and payable. This view is fully sustained by all the authorities.—*Kant and K. W. Co. vs. Cobb*, West Virginia Supreme Court of Appeals, 91 S. E. 454.

EFFECT OF ASSIGNMENT OF ARCHITECT'S CERTIFICATE

An assignee acquired from a building contractor, by assignment, a certificate signed by the architect, to the effect that the contractor was entitled to \$1,200 as a payment under the terms of the building contract, which was broad enough to include by its language not only perfected and recorded liens, but any valid "claims" for labor or material used in the construction of the building by the contractor. In a suit by the assignee it was held by the Georgia Court of Appeals that the certificate was assignable, but, not being a negotiable instrument, the assignee occupied no better position than the contractor, and the claim in its hands was subject to all the defenses that could have been interposed if suit had been brought by the contractor. The undisputed evidence showed that the contractor abandoned his contract, leaving unpaid claims for material furnished and labor done that were potential liens and debts assumed (not barred by statute when assumed), for an amount which, added to sums already paid under the contract, largely exceeded the contract price. There was no averment or proof that the work had been performed in accordance with the conditions of the contract, or that full performance was in any manner waived. Judgment for the defendants was affirmed.—*Citizens' Bank of Waynesboro vs. Timmons* (Ga.), 91 S. E. 1050.

RECOVERY BY CONTRACTOR FOR WORK SUBLET

A contract for remodelling a building bound the owner to pay the contractor the actual cost of labor and material furnished plus a certain percentage thereof. The contractor let out the work to a sub-contractor. In an action by the contractor for a balance due on the contract it was held that he was entitled to recover only the actual cost of the labor and material to the sub-contractor, plus the specified percentage thereon, and not the amount for which the sub-contract was let plus such percentage thereon.—*Bushnell vs. Brand*, 199 Ill. App. 542.

SUB-CONTRACTOR'S LIEN

A sub-contractor as a surety executed a bond given by the contractor conditioned that the contractor would comply with the contract, providing that he should furnish all material and perform all work according to specifications and furnish a satisfactory release of any lien before final settlement should be made, the owner being entitled to retain out of the amount due a sufficient sum to indemnify himself against liens, etc. The bond did not provide specifically against liens. It is held that the sub-contractor may, despite his obligation as a surety, perfect a lien against the property.—*Robinson vs. Ortiz* (Del.), 100 Atl. 408.

MATERIAL-MEN'S RIGHTS UNDER CONTRACTOR'S BOND

A surety bond to guarantee the faithful performance of a contract for the erection of a building by reference made the contract and specifications a part of the bond. The specifications required the contractor upon final settlement to furnish satisfactory evidence that all persons who performed labor or furnished materials under the contract had been fully paid. The specifications also reserved to the owner the right to retain final payment "until all liabilities are fully discharged, by paying them from such money." The Kansas Supreme Court, in an action by a material-man on the bond, holds that the bond was intended for the benefit of laborers and material-men under the contract, and therefore they might maintain suit on the bond to enforce their claims without having filed mechanics' liens.—*Algonite Stone Mfg. Co. vs. Fidelity and Deposit Co. (Kan.)*, 163 Pac. 1076.

EFFECT OF PRINCIPAL CONTRACTOR'S DEFAULT

Where the city, on the contractor's default, let the work of finishing the contract to a committee of creditors, agreeing to pay them the balance due on the contract, less outstanding liens, it is held that the contractor would be entitled to the balance of the contract price remaining after the city paid the committee for completing the work, such balance subject to the claims of legitimate lienors.—*Federal Heating Co. vs. City of Buffalo*, 163 N. Y. Supp. 336.

DEPARTURE FROM SPECIFICATIONS

The New York Appellate Division holds that under the system of mechanics' liens in New York a sub-contractor's lien rests upon the theory of subrogation; he stands in the main contractor's shoes as to his part of the work, and if, through the main contractor's indifference, the sub-contractor omits things specified, the owner cannot be affected by the

main contractor's acceptance or waiver, so that the sub-contractor should read over the main contract, and acquaint himself with the plans and specifications.—*Izemko vs. Werner*, 163 N. Y. Supp. 382.

WAIVER OF ARCHITECT'S CERTIFICATE

The New York Appellate Division holds that a building contractor cannot rely on a subsequent agreement as a waiver of the requirements of the original contract for an architect's certificate as a condition precedent to final payment, unless he performs the conditions of that agreement.—*Watson vs. McAuliffe*, 163 N. Y. Supp. 914.

PROOF OF DEFAULT TO SURETY

The New York Appellate Division holds that under a bond requiring written notice to surety within forty-eight hours after default in payment for materials furnished, and "written proof" of facts within thirty days, a letter advising surety of default and demanding immediate payment under threat of legal proceedings was sufficient "proofs," as well as notice, in absence of a request for more detailed proofs; the surety, by permitting time for filing proofs to pass by without objection to sufficiency of proof given being estopped from claiming that the letter is insufficient.—*Fass vs. Illinois Surety Co.*, 164 N. Y. Supp. 239.

CONSTRUCTION OF CONTRACT

The New York Appellate Division holds that plumbing specifications, requiring plaintiff to connect present sewer in a certain manner as "shown on plan," and providing that anything shown on the plans should be done without extra charge, required underground sewer connections where the plans so indicate, although defendant's existing sewer was several feet above the ground.—*J. T. Woodruff & Sons. vs. L. & B. E. Brewing Co.*, 164 N. Y. Supp. 594.

Who Was the Architect of the U. S. Capitol Extension?

MR. GEORGE KELLER, architect, of Hartford, Conn., has raised a burning question which may kindle as much flame as the well-remembered Pugin vs. Barry controversy did nearly a half a century ago. Mr. Keller contends that the extension of the Capitol was really the work of Charles Frederick Anderson, a well-known Irish architect. The north and south wings of the Capitol, which contain the Senate and House of Representatives' chambers, have long been credited "in undiluted form" to Thomas U. Walter, a Philadelphia architect, who afterwards became president of the American Institute of Architects. Anderson, says Mr. Keller, was the real architect whose design Walter carried out. The credit of designing the wings gradually came to be wrongly attributed to Walter, and he took no pains to correct the mistake.

Being somewhat familiar with the subject, having lived in Washington with Anderson's family, Mr. Keller has more than once endeavored to have his claim properly acknowledged, but without any marked success. An obituary notice of Edward Clark, the successor to Walter as architect of the Capitol, printed in the American Institute of Architects' official paper for 1903, refers to Walter as "the designer of the wings of the Capitol," and there is no mention of Anderson's name in any of the Proceedings of the American Institute of Architects, although Mr.

Keller says he fully stated the case at an annual convention held in Buffalo, in October, 1901.

It is quite possible that some of our own readers may be able to throw light on the matter. Before coming to the United States, Anderson was a well-known architect in Cork, Ireland, where he was in partnership with Sir Thomas Deane, whose son, the present Sir Thomas, is well known as an eminent architect in Dublin. The firm had a wide practice until the troubles in Ireland diminished work and Anderson emigrated to New York in 1848. There he formed a partnership with James Renwick, the architect of Grace Church, New York. In 1850, having separated from Renwick, he entered a public competition for designs for the extension of the Capitol at Washington, D. C. Five hundred dollars was offered as a prize for the best design, but as none of the many plans received were quite satisfactory, the committee selected four of those considered to have most merit, and equally divided the \$500 among the four architects. Anderson was one of those four architects and received his share of the prize.

The committee then employed an architect named Mills to compile a new plan from the four selected ones, adopting such features of them as was thought fit, evidently having no compunction of conscience in appropriating the ideas of the others without having made adequate compensation.

President Fillmore, having approved this plan, the corner-stone was laid "with suitable ceremonies," on July 4, 1851. While the foundations were being laid, Fillmore substituted a plan of his own in place of the composite plan, at which dissatisfaction was manifested in the Senate. Soon after the inauguration of President Pierce, Fillmore's plan having been abandoned, Anderson was consulted by the President. He suggested to the President that in a Government building of this magnitude an army engineer ought to be associated with him. Accordingly, a little over a fortnight after his inauguration, on March 23, 1853, President Pierce transferred the work from the Department of the Interior to the War Department, and Captain M. C. Meigs, of the Corps of Engineers, was put in charge. Anderson often said that when he was staking out the building with Meigs, a misunderstanding arose between them, with the result that within a week Anderson was supplanted by Thomas U. Walter, of Philadelphia, as architect of the Capitol, Meigs remaining as superintendent.

It would appear from this that soon after Pierce's inauguration Anderson had been employed as architect, although no record has been discovered of the fact, unless three warrants for \$500 each, issued by the Secretary of the Treasury in 1864 and 1865, are part evidence of his employment. However that may be, \$1,500 evidently did not seem an adequate compensation to Anderson for his services; for, as a result of investigation of his claims by a Senate Committee, it reported, March 29, 1864, in part, as follows:—

It is only necessary to compare the preceding description by the committee of the composite plan adopted by them with the plan presented by Mr. Anderson to discover the similarity or identity of the two.

It appears from this investigation that President Fillmore discarded the composite plan and adopted a plan of his own, which, with a few exceptions, bore no resemblance to Anderson's design. When the Fillmore plan was abandoned, Captain Meigs proceeded to revert to the Anderson design. The report goes on to say:

It is known that Captain Meigs had one or more interviews with Mr. Anderson, with full explanations of his plans, both interior and exterior, and it would not be unreasonable to suppose that he would avail himself of every useful suggestion to be derived from such an opportunity, and it remains only to be seen by a comparison of the building with the plans of Mr. Anderson to discover whether there is any similarity or identity between the two.

After tracing the obvious resemblances, the report winds up as follows:—

The committee, from an actual inspection of Mr. Anderson's plans, and a comparison of them with the extensions as they now exist, believe that his original conceptions and plans have entered to a considerable extent into the existing construction of the Capitol extension.

The report was accompanied by a bill appropriating \$7,500 for his relief and recommending the retention of all Anderson's plans and drawings. This bill was passed at the next session, and was signed by the President on February 7, 1866. Strange to say, although diligent search has been made for these plans, no trace of them has yet been found.

Before Anderson moved from New York to Washington Mr. Keller had been employed for a short time in his Wall Street office, and he took Mr. Keller with him to Washington. The principal object in going there was to prosecute his claim for services on the Capitol extension plans. These plans were framed and hung on the walls of the office in Washington, where Mr. Keller worked for over a year, during which time several men prominent in public life came to examine the drawings, among them Senators Jefferson Davis and Jesse D. Bright. The drawings were

beautifully rendered in lead pencil by a friend of Anderson's named McCoy, an engraver then in the office of the Coast Survey. The bill for the relief of Anderson stipulated that his plans and drawings should be kept in the possession of the Government, and it is surprising that so important an evidence of Anderson's part should have mysteriously disappeared.

When Walters retired from being architect of the Capitol, a position he held for fourteen years, he was succeeded by his draughtsman, Edward Clark, whom he took with him from Philadelphia. He died in office in 1902, having been employed by the Government fifty-one years, thirty-seven of which he acted as architect of the Capitol. When Clark was still living a communication appeared in one of our architectural journals written by Mr. Keller, in which he briefly stated Anderson's claims as architect of the wings of the Capitol, hoping that it would receive corroboration from Washington, but it evoked no response, except a letter, dated February 2, 1891, from a former private secretary of the late Senator Platt, Edward T. Lee, who wrote to Mr. Keller as follows:

Mr. Clark, the architect of the Capitol, happened to be in the committee room a few days after your letter came, and I grabbed the opportunity to draw him out on the construction of the wings of the Capitol, remarking, incidentally, that I understood an article lately appeared in one of the architectural journals giving Mr. Anderson the credit of the idea embodied in them. This was after he said Walter was the man who, with Meigs, deserved the credit. When I spoke of Anderson, he hesitated a while, as if trying to evoke him from the past, and said, "Oh, yes, he was a crazy man that hung about the committee for a long time, till finally they gave him something to get rid of him." That ended our conversation; and my only comment is, that it is the first case I have heard of where a committee ever gave a man anything to get rid of him.

After "hanging around" for over fifteen years, Senator Bucklaw, of Pennsylvania, was instrumental in having partial justice done to Anderson. During a debate in the Senate, July 23, 1866, on the improvement of the ventilation and heating of the chambers, he said:—

What the committee proposes at this time is that the architect (Anderson) who designed the Capitol wings originally, and a departure from whose plans has introduced every difficulty that now exists in the ventilation of the halls—I speak with confidence after three years' examination of the subject—shall proceed in accordance with the plans which have been examined and approved.

The following letter, received from the Treasury Department, confirms the payment to Anderson of \$7,500 for services "in preparing plans and drawings for the Capitol extension":—

Treasury Department, Washington,
July 10, 1916.

Mr. George Keller, Hartford, Conn.

Sir:—By direction of the secretary receipt is acknowledged of your communication of the 29th ultimo, relative to a claim of Charles Frederick Anderson, architect, in connection with the Capitol extension, the sum of \$7,500 having been appropriated for payment to him by Act of February 7, 1866 (14 Stat. 577).

The said sum of \$7,500 was paid to Charles Frederick Anderson by Treasury warrant No. 5551, dated February 7, 1866, and the paid draft now in the files bears the endorsement "Chas. F. Anderson."

This department has no information as to any committee or other reports submitted to Congress regarding the claim, the warrant having been issued in accordance with the terms of the relief Act, which reads as follows:—

"That the Secretary of the Treasury be, and he is hereby, directed to pay to Charles F. Anderson, architect, out of any money not otherwise appropriated, the sum of seven thousand five hundred dollars, in full, for time, labor, and expense in preparing plans and drawings for the Capitol extension."

Respectfully,
(Signed) WM. P. MALBURN,
Assistant Secretary.

It must be some satisfaction to Mr. Keller to have received at least so conclusive a proof that Anderson did "prepare the plans and drawings for the Capitol extension."



CHAPFIELD'S HOUSE, NO. 6, AND FLANS, KEW GARDENS, LONG ISLAND, N. Y.

W. M. C. C.



House No. 4.

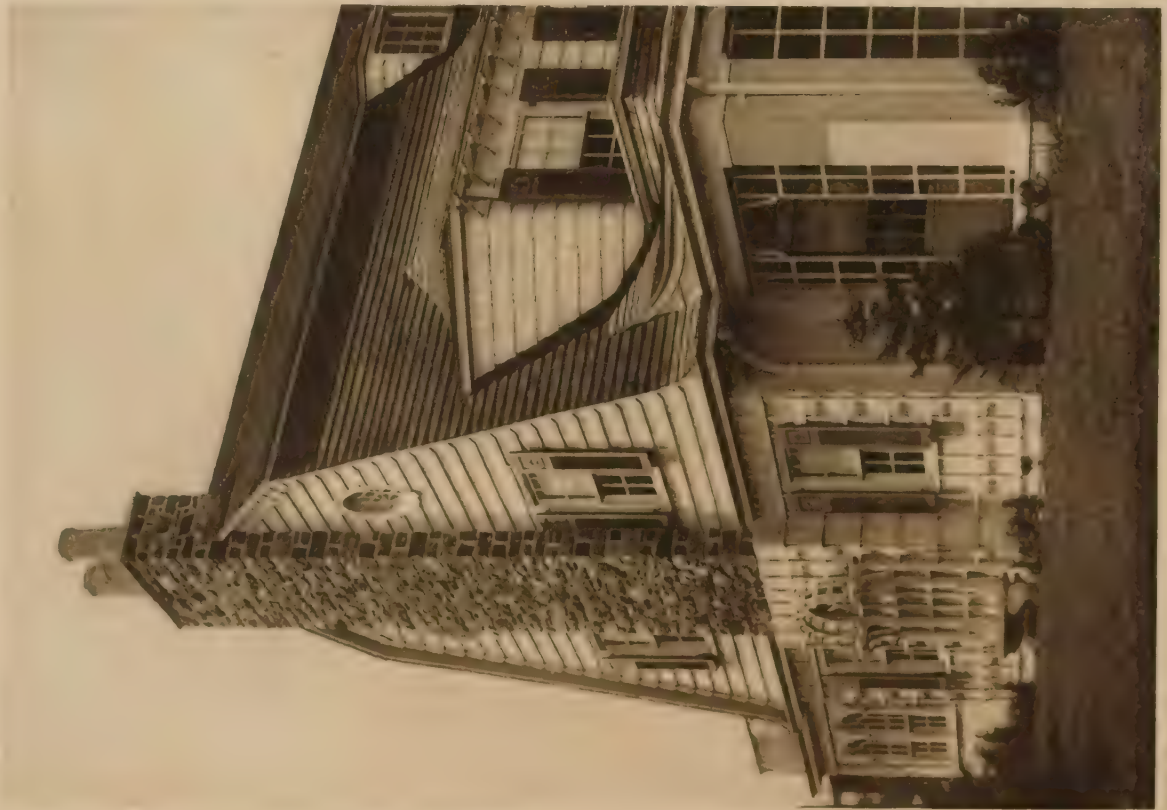
House No. 3.



Entrance, House No. 4.



Entrance, House No. 3.



Detail, House No. 3

CHAPELFIELD'S HOUSE AND PLANS, NO'S 3 AND 4, KEW GARDENS, LONG ISLAND, N. Y.



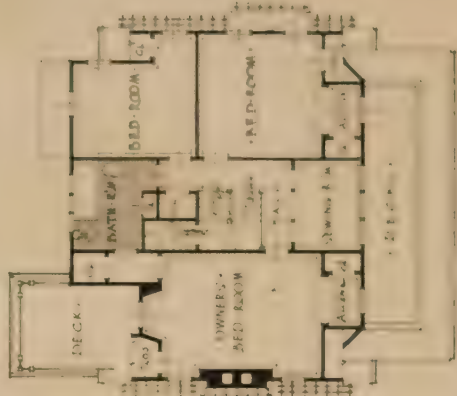
Plans, House No. 4



FIRST FLOOR PLAN



SECOND FLOOR PLAN



Plans, House No. 3

W. M. CHAPMAN, ARCHT.

ARCHITECTURE

THE PROFESSIONAL ARCHITECTURAL MONTHLY

VOL. XXXVI

JULY, 1917

No. 7

ARCHITECTURE, edited in the interest of the profession, is published the fifteenth of every month by CHARLES SCRIBNER'S SONS (Charles Scribner, President), Fifth Avenue at 48th Street, New York.

PRICE, mailed flat to any address in the United States, Mexico, or Cuba, \$5.00 per annum in advance; to Canada, \$6.00 per annum; to any foreign address, \$7.00 per annum.

ADVERTISING RATES upon request. The writing and displaying of Advertisements is an art in itself, and the publishers will be pleased to give the Advertiser the benefit of an Expert's experience in this line at no additional expense.

ENTERED at the New York Post Office as second-class mail matter.

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Measured and Drawn by Walter McQuade.

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Measured and Drawn by J. L. Keister, O. J. Munson, J. A. Weber.

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Measured and Drawn by Albert E. Micklewright.

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Announcement

Messrs. Charles Scribner's Sons wish to announce that they have purchased all of the stock of Forbes & Company, Limited, and that ARCHITECTURE will be hereafter published by them.

The periodical will have the full benefit of their organization and equipment, and its high standard will be maintained and its usefulness increased.

A complete announcement of the arrangements made for the conduct of the magazine under the new ownership will be published later. Mr. McQuade, Mr. Micklewright, and Mr. Simpson will still be regular contributors, and Miss Scott and other members of the staff will continue with the new organization.

Editorial

Advice to Clients—Keeping the Clients Contented

THE great question before architects of to-day is how they shall advise their clients. Whether they shall advise them to continue under conditions so difficult in every respect as those which now exist, or to postpone construction until better times come. Since the whole question is determined primarily by the labor situation, this is the one factor which needs to be considered. It is urged by many that, at the conclusion of the war, the enormous demand upon certain industries for war material will cease and a considerable number of laborers will be liberated for the activities of peace. This is probably true, yet on the other hand we are dependent chiefly upon immigration from Europe for our

supply of common labor, and there is little probability that at the conclusion of the war this continuous flow to America will continue. Of course the statement is frequently made that the European countries will be so desperately hard up that economy will be practiced to the last degree, and many of Europe's best laborers will be forced to come to this country in search of work. Against this it is said that Europe will need all her labor for reconstruction after the war. Both statements seem to have in them elements of probability, and both will be true to the point where they are mutually exclusive. On the other hand, it must not be forgotten that conditions in Russia will be generally im-

proved for the laboring class, if not immediately, at least after a little while. In the second place Germany, Austria, and Bulgaria have already passed laws forbidding emigration, and it is from these three countries that we have drawn the great bulk of unskilled labor. Italy had, even before the war, begun to employ most of what formerly constituted her surplus of men, and we can hardly look to Italy for any great supply. France has never been a nation of emigrants and we have in the past drawn very little upon England and Scotland for unskilled labor, and, although a considerable number of Irish have come to this country, the population of Ireland is now so small that we can no longer look there for any material assistance. Further, we are sending to Europe a considerable number of young men, and are preparing to send a very great number. How many we may have return is unknown.

Nor does it seem that in most prophecies regarding conditions after the war sufficient consideration has been given to the recent act of Congress which forbids illiterates from entering the country, an act which seems contrary to the broad principles upon which the United States was founded as well as to the dictates of common sense. Yet because of the great power of the Unions, the act will probably stand upon the statute-books.

To the writer, at least, the present high prices seem bound to continue for a considerable period after the war, and it is extremely improbable that they will ever be reduced to the level of 1914.

MOST architects, when they find that they have made some mistake, or have omitted something that the client has asked for, or when the client wants something and thinks it ought to have been put in and the architect is neglecting his duty in not putting it in, are inclined to do it at their own expense, and put it down to profit and loss. It is a question as to how far this ought to go. Of course it is obvious that the client has no real responsibility in the matter. The contractor agrees to provide and the owner agrees to pay for a certain collection of objects which assembled in a particular way make a house, and the client is not entitled to have, nor is the contractor required to furnish, any item which is not obviously called for in the specifications. On the other hand, we very often come up to the things which an owner thinks every well-provided house should have, and that every well-informed architect should have thought of, which an architect is inclined to pay for rather than have a fight with his client, and it is doubtful if this kind-hearted policy pays.

The decent client will not ask for anything which he isn't paying for, and a mean client never ceases to take advantage of the good nature of the architect. Nor is the respect of the client as a rule improved by what constitutes an admission on the part of the architect that these things should have been foreseen.

We regard it as a danger to the profession when architects begin to pay for things for which they should not pay.

If the law holds them accountable for errors, for permission which they may give to the contractor to change things, no matter whether the change be made in good faith or not, and in general defines their duties and establishes their responsibility pretty definitely, the architect should stand firmly upon the basis of his plans and specifications and should waive none of his rights.

WHILE the soldier is busy blasting down ancient cities across the water the architect, who in some cases is the soldier also, is already looking forward to the coming period of reconstruction. And he foresees dangers to the cause of beauty more insidious than those of war.

Landscape Architecture, a quarterly, gives in its current issue an account of the plans of various societies to forestall hasty and inappropriate building after the war. The Netherlandish-Belgian Committee of Civic Art has appealed to American architects to aid in collecting material that will furnish a basis for city planning.

The committee declares the greatest dangers of the future to lie in an unintelligent imitation of the past and in a lack of unity. The cities of Europe have arisen from the period of the shepherd's hut with a certain continuous reference to harmonious traditions. These were set aside at times, but never wholly forgot.

The continuity is broken. European architects recognize this, and they look to America for the kind of experience that has come with our struggle to adapt old forms to our new conditions. They give us credit for a certain success, in such words as these:

"In wholly modern cities of America one may venture to aspire to create all things as wholes. This is the work of American landscape architects and city planners, admirable dealers with space, whose work in the great universities, Harvard and others, absolutely revolutionizes our archaic conception of architecture which sees the house first that conceals the town."

We have heard a good deal about the demand for our munitions and our money. It is a new thing to hear Europe calling upon America for beauty. In our own hearts we must plead guilty to many transgressions in architecture. But if even a part of our planning and building looks fair in trans-oceanic perspective we may be pardoned for permitting ourselves a thrill of tempered pride.

AN architect who undertakes to do his work without the aid of books and the monthly architectural publications is undoubtedly placing himself at great disadvantage in his struggle to excel, or even succeed in his chosen field. A workman cannot do his best unless supplied with ample and appropriate tools. Only a genius can afford to disregard what has been accomplished by others and set down in books. Unfortunately, geniuses are rare. The majority of people are not only willing, but eager to avail of any assistance obtainable.

An Appreciation

Owing to my many outside interests, I have retired from active business and I state with pleasure that Charles Scribner's Sons have purchased Forbes & Company, Ltd., and hereafter ARCHITECTURE will be published by them.

I wish to express my appreciation of the support given me by the profession and to thank the business firms who, through the advertising columns, have contributed loyally to the advancement of ARCHITECTURE.

A. HOLLAND FORBES.



The Nave of the Cathedral of St. John the Divine.